EN

Wall-hung gas boilers

WHE 2.24 / WHE 2.24 FF

User Guide

300011777-001-C

De Dietrich

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1 Introduction

1.1 Symbols used

Caution danger
Risk of injury and damage to equipment. Attention must be paid to the warnings on safety of persons and equipment.

Specific information
Information must be kept in mind to maintain comfort.

Reference
Refer to another manual or other pages in this instruction manual.

DHW: Domestic hot water

1.2 General

1.2.1 Manufacturer's liability

De Dietrich Thermique S.A.S manufactures products in compliance with the standard CE. Products are delivered with CE marking and all documents required.

In the interest of customers, **De Dietrich Thermique S.A.S** are continuously endeavouring to make improvements in product quality. All the specifications stated in this document are therefore subject to change without notice.

The liability of **De Dietrich Thermique S.A.S** as the manufacturer may not be invoked in the following cases:

- Incorrect use of the appliance.
- Faulty or insufficient maintenance of the appliance.
- Incorrect installation of the appliance.

1.2.2 Installer's liability

The installer is responsible for the installation and inital start up of the appliance. The installer must respect the following instructions:

- Read and follow the instructions given in the manuals provided with the appliance.
- Carry out installation in compliance with the prevailing legislation and standards.
- Perform the initial start up and carry out any checks necessary.
- Explain the installation to the user.
- Warn the user of the obligation to check the appliance and maintain it in good working order.
- Give all the instruction manuals to the user.

1.2.3 User's liability

To guarantee optimum operation of the appliance, the user must respect the following instructions:

- Read and abide by the instructions given in the user manual.
- Call on qualified professionals to carry out installation and initial start up.
- Get your fitter to explain your installation to you.
- Have the required checks and services done.
- Keep the instruction manuals in good condition close to the appliance.

2 Safety instructions and recommendations

2.1 Safety instructions

■ Fire hazard

Do not stock products of an inflammable nature close to the appliance.

If you smell gas, do not use a naked flame, do not smoke, do not operate electrical contacts or switches (doorbell, lights, motor, lift, etc.).
1.Cut the gas supply
2.Open the windows
3.Extinguish all flames
4.Evacuate the premises
5.Contact a qualified professional
6.Inform the gas supplier

■ Risk of intoxication

Do not obstruct the air inlets in the room (even partially).

If you smell flue gases
1.Switch the appliance off
2.Open the windows
3.Evacuate the premises
4.Contact a qualified professional

■ Risk of being burnt

Avoid direct contact with the flame viewport.

Depending on the settings of the appliance:

- The temperature of the flue gas conduits may exceed 60°C
- The temperature of the radiators may reach 95°C
- The temperature of the domestic hot water may reach 65°C

■ Risk of damage

Do not stock chloride or fluoride compounds close to the appliance.

Install the appliance in frost-free premises.

Do not neglect to service the appliance: Contact a qualified professional or take out a maintenance contract for the annual servicing of the appliance.

2.2 Recommendations

Warning
Only qualified professionals are authorised to work on the appliance and the instalation.

Warning
▸Before any work, switch off the mains supply to the appliance.
▸Before any work, close the main gas valve.

- Check regularly that the installation contains water and is pressurised.
- Keep the appliance accessible at all times.
- Avoid draining the installation.
- Use only original spare parts.
- Never remove or cover labels and rating plates affixed to the appliance.
- The appliance should be on Summer or Antrifreeze mode rather than switched off to guarantee the following functions:
  - Cleaning the pumps
  - Antifreeze protection
  - Protection against corrosion on domestic hot water tanks fitted with a titanium anode

3 Description

3.1 General description

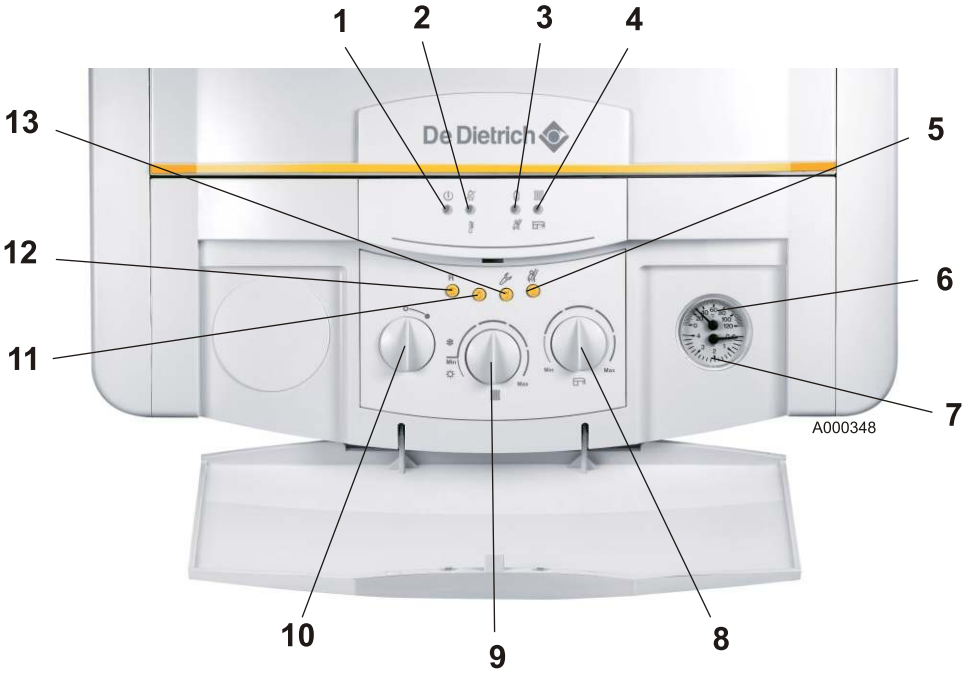
3.1.1 WHE 2.24

- Wall-hung gas boiler
- Central heating and instant domestic hot water production
- Wide modulation range (8.4 to 24 kW)
- High efficiency (★★CE)
- Stainless steel atmospheric burner
- Main exchanger in copper with protective zinc layer which enables very high combustion efficiency
- Simple, functional control panel
- Integrated troubleshooting system
- Flow limiter (DHW): 10 l/mim.
- Expansion vessel: 8 l
- Automatic air vent
- Accelerator pump
- Low water safety device
- By-pass
- Filling and emptying tap
- Thermo-pressure gauge
- Assembly template delivered with the boiler
- Flue gas temperature sensor
- Connecting to a chimney
- Silent running

3.1.2 WHE 2.24 FF

- Wall-hung gas boiler
- Central heating and instant domestic hot water production
- Wide modulation range (8.4 to 23.6 kW)
- High efficiency (★★CE)
- Stainless steel atmospheric burner
- Main exchanger in copper with protective zinc layer which enables very high combustion efficiency
- Simple, functional control panel
- Integrated troubleshooting system
- Flow limiter (DHW): 10 l/mim.
- Expansion vessel: 8 l
- Automatic air vent
- Accelerator pump
- Low water safety device
- By-pass
- Filling and emptying tap
- Thermo-pressure gauge
- Assembly template delivered with the boiler
- Differential air pressure switch
- Combustion gas extraction fan
- Connection to a concentric air inlet and combustion products discharge conduit:
  - Horizontal forced flue - type C_{12} connection
  - Vertical forced flue - type C_{32} connection
  - Leakproof collective conduit - type C_{42} connection
  - Separate ducts - type C_{52} connection
- Silent running

3.2 Control panel



1. : ON/OFF light (1)
2. / : No flame or thermostat activation light (1)
3. / : Flame present or sweeping mode activation light (1)
4. / : "Heating" or "domestic hot water" ON light (1)
5. **"Chimney sweep" button** (Sweeping mode)
6. **Thermometer** (Heating circuit temperature)
7. **Pressure gauge** (Pressure in the heating circuit)
8. **domestic hot water thermostat** (35 to 60 °C)
9. **Boiler thermostat** (35 to 80 °C)
   "SUMMER" position / "WINTER" position
10. **Main ON/OFF switch**
11. **Not used**
12. **Unlock button (reset)**
13. **"Fitter" button** (Setting the boiler parameters)
    The button can be locked by turning it 45°

(1) The lights may have 6 different signals

On	
Off	
Flashing slowly	On: 0.75 s Off: 0.75 s
Flashing rapidly	On: 0.10 s Off: 0.40 s
Flashing on modification	On: 0.75 s Off: 0.25 s
Flashing on update (2 flashes)	On: 0.15 s Off: 0.15 s

For the meanings of the various combinations, see the following chapters:

- Meaning of the lights (normal operation) - Page: 7
- Error messages - Page: 10

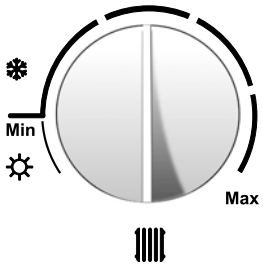
4 Operating the appliance

4.1 Meaning of the lights (normal operation)

Light 1	Light 2	Light 3	Light 4	
Off	Off	Off	Off	**Boiler off**
On	Off	Off	Off	**Boiler on standby**
Flashing rapidly	Off	Off	Off	**Anti-short cycle activated (Only in heating mode)**
On	Off	On	On	**Heating mode**
On	Off	On	Flashing rapidly	**Domestic hot water mode**
Off	Flashing rapidly	Flashing rapidly	Off	**Operating at maximum output**
Flashing rapidly	Off	Flashing rapidly	Off	**Operating at minimum output**

4.2 Changing the settings

4.2.1 Summer/winter setting / Heating temperature setting

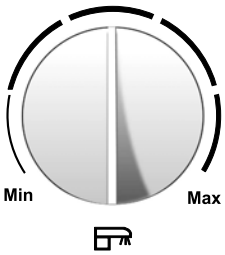


Set the boiler thermostat to ☼ or ❄.

❄: 35 to 80 °C
Set the boiler thermostat to the desired setting.
Heating and domestic hot water are in operation

☼: Min position
Only domestic hot water is in operation

4.2.2 Setting the domestic hot water temperature

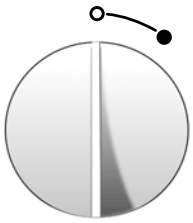


35 to 60 °C
Set the DHW thermostat to the desired setting.

4.3 Stopping the boiler

4.3.1 Switching off

Set the On/Off switch to ○.



A boiler which is switched off is not protected against frost.

The control panel should always be switched on to take advantage of the heating pump anti-sticking function

4.3.2 Antifreeze protection

Leave the boiler on standby:

- Turn the boiler thermostat to Min.
- Turn the domestic hot water thermostat to Min.

The pumps start up when the temperature falls below 8°C.

The pumps and the burner start up when the temperature falls below 6°C.

4.3.3 Cleaning the pumps

Leave the boiler on standby:

- Turn the boiler thermostat to Min.
- Turn the domestic hot water thermostat to Min.

The pumps operate for 5 seconds if they have been inactive for more than 24 hours.

4.3.4 Precautions to take if there is a danger of frost

Heating circuit:
Use a correctly dosed antifreeze to prevent the heating water freezing. If this cannot be done, drain the system completely. In all cases, consult the fitter.

Domestic hot water circuit:
Drain the domestic water tank and pipes.

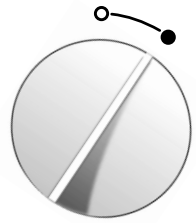
4.3.5 Precautions to take in the event of prolonged shutdown (one year or more)

- Close the gas valve
- The boiler and the chimney must be swept carefully.
- Close the door of the boiler to prevent the internal circulation of air.

4.4 Restart of the boiler

Initial commissioning must be done by a qualified professional.

1. Open the gas valve.
2. Set the boiler thermostat to the desired setting.
3. When preparing domestic hot water: Set the DHW thermostat to the desired setting.
4. Set the On/Off switch to ●.



Ignition cycle	Light 1	Light 2	Light 3	Light 4
1. **Operational test for a few seconds**	Flashing rapidly	Off	Off	Off
2. **Test successful, the boiler is on standby**	On	Off	Off	Off
3. **When heating is required, the ignition sequence starts up**	On	Off	On	On

If the flame is not detected, the boiler tries to ignite 4 more times before going into safety shutdown.

5 Checking and maintenance

Make the following checks at least 1 time a year:

- Safety devices
- Water level
- Checking burner safety
- Checking the gas inlet

Carry out the following maintenance at least 1 time a year:

- Principal exchanger
- Plate exchanger
- Burner
- Cleaning the "cold water" filter
- Cleaning painted surfaces

6 Troubleshooting

Before informing the fitter of a fault, make a note of the following information:

- Type of gas used
- Boiler type
- Date of manufacture
- Year (01 = 2001, 02 = 2002, ...)
- Week
- Serial no. of the appliance

6.1 Error messages

Errors are signalled by the 4 lights on the control panel.

Light 1	Light 2	Light 3	Light 4		
Flashing rapidly	Flashing rapidly	Flashing rapidly	Flashing rapidly	**Communication error** : Communication error between the safety control box and the PCB	Check the cable between the safety control box and the PCB. Press the Reset button for 2 seconds. **If the problem persists, contact the fitter**.
Off	Off	Off	Off	**The boiler does not start up**: No current	Check the electrical connections.
Off	On	Off	Off	**No flame detected after 5 ignition attempts**	Press the Reset button for 2 seconds **If the problem persists, contact the fitter**.
Flashing rapidly	On	Off	Off	**Fault temperature sensor heating outlet**: The sensor circuit has been broken or short circuited	First check that the water is circulating in the boiler (water pressure in the heating circuit, flow and return valves open, valves and radiators open, etc.). **If the problem persists, contact the fitter**.
Off	On	Flashing rapidly	Off	**Domestic hot water outlet sensor fault:** The sensor circuit has been broken or short circuited	First check that the water is circulating in the boiler (water pressure in the heating circuit, flow and return valves open, valves and radiators open, etc.). **If the problem persists, contact the fitter**.
Off	Flashing rapidly	Off	Off	**Thermostat activation:** Safety thermostat open	Check the fresh air inlet and flue gas discharge ducts (or the forced flue). Press the Reset button for 2 seconds. **If the problem persists, contact the fitter**.
Off	On	Off	Flashing rapidly	**WHE 2.24** **Flue gas temperature sensor error**: - Insufficient draught - The sensor circuit has been broken or short circuited	Check for adequate draw on the chimney connection. The boiler is in safety shutdown until the flue gas temperature sensor is again operational. Wait 15 minutes. **If the problem persists, contact the fitter**.
				WHE 2.24 FF **Air pressure error**: Insufficient draught	Check the fresh air inlet and flue gas discharge ducts (or the forced flue). Press the Reset button for 2 seconds. **If the problem persists, contact the fitter**.
Off	On	Flashing rapidly	Flashing rapidly	**The water level and/or pressure are too low**	First check that the water is circulating in the boiler (water pressure in the heating circuit, flow and return valves open, valves and radiators open, etc.). Top up the heating circuit with water. Carry out a visual check for the presence of any water leaks.

Light 1	Light 2	Light 3	Light 4		
On	Flashing rapidly	On	On	**Other errors on the safety control box**	**Advise the installer**

6.2 Incidents and solutions

■ The burner is not working:

- Check the boiler thermostat settings.
- Check the circuit breaker

■ The burner is operating but the radiators are cold:

- Bleed the radiators.
- Top up the primary circuit with water.
  If it is often necessary to top up the installation with water, contact your fitter.
- Check that the heating pump is operating correctly.
- Check the boiler thermostat settings.

7 Technical characteristics

		WHE 2.24	WHE 2.24 FF
Nominal input power	kW	26.6	25.4
Nominal useful output	kW	24	23.6
Minimum useful output	kW	8.4	8.4
Maximum output	kW	24	23.6
Efficiency (80/60 °C)	%	90.1	92.9
Gas flow rate			
Natural gas (Pmax)	m^3/h	2.77	2.65
Natural gas (Pmin)	m^3/h	0.97	0.96
Butane / Propane	Kg/h	2.08	1.99
Heating			
Minimum output temperature	°C	35	35
Maximum output temperature	°C	80	80
Minimum operating pressure	bar	0.8	0.8
Maximum operating pressure	bar	3	3
Domestic hot water			
Minimum output temperature	°C	35	35
Maximum output temperature	°C	60	60
Minimum operating pressure	bar	0.3	0.3
Maximum operating pressure	bar	10	10
Minimum flow	l/min	3	3
Specific flow at Δt=30K	l/min	11.4	11.4
Combustion products circuit			
Mass flue gas flow rate (min / max)	Kg/h	70/75	59/50
Flue gas temperature (min / max)	°C	84/124	98/135
Value CO_2 (min / max)	%	1.8/4.9	2.1/7.1
Maximum pressure at the flue gas nozzle	Pa	-	35
Gas connection	inch	R 3/4	R 3/4
Heating connection	inch	R 3/4	R 3/4
Domestic hot water connection	inch	R 1/2	R 1/2
Electrical connection	V/Hz	230/50	230/50
Electrical power	W	105	150
Expansion vessel capacity	l	8	8
Net weight (without water)	kg	34.7	40.8
Dimensions	mm	750 x 454 x 340	750 x 454 x 340
Insulation class		IP20	IPX4D

Conditions of use:

- Max. safety temperature: 95 °C
- Safety thermostat: 105 °C

Warranty

You have just purchased one of our appliances and we thank you for the trust you have placed in our products.

Please note that your appliance will provide good service for a longer period of time if it is regularly checked and maintained.

Your fitter and our customer support network are at your disposal at all times.

■ Warranty terms

Starting from the purchase date shown on the original fitter's invoice, your appliance has a contractual guarantee against any manufacturing defect.

The length of the guarantee is mentioned in the price catalogue.

The manufacturer is not liable for any improper use of the appliance or failure to maintain or install the unit correctly (the user shall take care to ensure that the system is installed by a qualified fitter).

In particular, the manufacturer shall not be held responsible for any damage, loss or injury caused by installations which do not comply with the following:

- applicable local laws and regulations
- specific requirements relating to the installation, such as national and/or local regulations
- the manufacturer's instructions, in particular those relating to the regular maintenance of the unit
- the rules of the profession

The warranty is limited to the exchange or repair of such parts as have been recognised to be faulty by our technical department and does not cover labour, travel and carriage costs.

The warranty shall not apply to the replacement or repair of parts damaged by normal wear and tear, negligence, repairs by unqualified parties, faulty or insufficient monitoring and maintenance, faulty power supply or the use of unsuitable fuel.

Sub-assemblies such as motors, pumps, electric valves etc. are guaranteed only if they have never been dismantled.

■ France

The preceding dispositions are not exclusive of benefits for the purchaser of the legal guarantee as stated in Civil Code articles 1641 to 1648.

■ Belgium

The preceding dispositions about the contractual guarantee are not exclusive of profit if the need arises for the purchaser in Belgium of the applicable legal dispositions on hidden defects.

■ Switzerland

The application of the warranty is subject to the terms and conditions of sale, delivery and warranty of the company marketing our products.

■ Poland

Warranty conditions are included in the warranty card.

■ Other countries

The above provisions do not restrict the benefit of the legal laws regarding hidden defects applicable in the buyer's country.

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Subject to alterations.

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